Then according to $SD$, the side binary sequences $SP_y$, $SS_y$ and $SR_y$ of $Y$ are obtained by SPIHT encoding. Next, $SP_y$, $SS_y$, $SR_y$ and the received syndrome bits are used to recover the main binary sequence $SP$, $SS$ and $SR$ by channel decoding. Finally, the wavelet coefficients of $X$ will be reconstructed according to

$$W'' = \begin{cases} V_{\text{max}}, & \text{if } W_y > V_{\text{max}} \\ W_y, & \text{if } V_{\text{min}} \leq W_y \leq V_{\text{max}} \\ V_{\text{min}}, & \text{if } W_y < V_{\text{min}} \end{cases} \quad (1)$$

where $W''$ is the final wavelet coefficient, $V_{\text{max}}$ and $V_{\text{min}}$ are the possible maximal and minimal value of $W''$ if SPIHT decoding is implemented to all bit-planes.

3. Proposed residual 2D-DVC and optimization

The proposed residual 2D-DVC scheme is sketched in Fig. 4, including encoding and decoding processes. Part 1 of each description is generated by zero-motion based H.264 encoding. Part 2, for example, part 2 of description 1, is from the SW-SPIHT stream of description 2. The details are explained as follows.

3.1. Zero-motion based H.264 coding

Zero-motion based H.264 denoted as H.264 0-mv is employed in our scheme to meet the demands of low-complexity encoding. Zero-motion based